Title (en)

Metal biosensors based on compounds with metal-sensitive chemical shifts for magnetic resonance spectroscopy and imaging

Title (de)

Metall-Biosensoren auf Basis von Verbindungen mit metallempfindlichen chemischen Verschiebungen für magnetische Resonanzspektroskopie und Magnetresonanzbildgebung

Title (fr)

Biocapteurs métalliques à base de composés avec déplacements chimiques sensibles au métal pour la spectroscopie par résonance magnétique nucléaire et imagerie

Publication

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Application

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Priority

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Abstract (en)

The present invention relates to the use of compounds with at least one metal-sensitive chemical shift for determining metal concentrations and/or measuring metal concentration changes, wherein the compound is selected from the group of: pyro-EGTA, EGTA, EDTA, AATA, APTRA, BAPTA, HIDA, citrate, CarboxyGlutamate (CGlu), arylazo chromotopic acid, beta-diketone (crown-ether), mono-, di-, or tri-pyridyl aniline, mono-, di-, or tri-pyridyl amine, trimethylphenylammonium, or derivatives thereof. The present invention further relates to biosensors comprising at least one of the compounds. The present invention also relates to the use of the compounds for diagnosing and/or monitoring treatment of a disease causing changes in metal concentrations. The present invention is furthermore related to in vitro and in vivo methods for determining metal concentration and/or measuring metal concentration changes using the compounds or biosensors. The present invention also relates to methods of diagnosing and/or monitoring treatment of a disease causing changes in metal concentrations wherein the compounds or biosensors are applied. The present invention also relates to use of the compounds or biosensors in quality control of food or in the examination of plants and organisms or for monitoring of environmental resources. The present invention further relates to novel derivatives of pyro-EGTA, AATA, APTRA and BAPTA as well as their uses.

IPC 8 full level

G01N 24/08 (2006.01); **A61B 5/055** (2006.01); **A61K 49/06** (2006.01); **G01R 33/28** (2006.01); **G01R 33/465** (2006.01); **G01R 33/56** (2006.01)

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